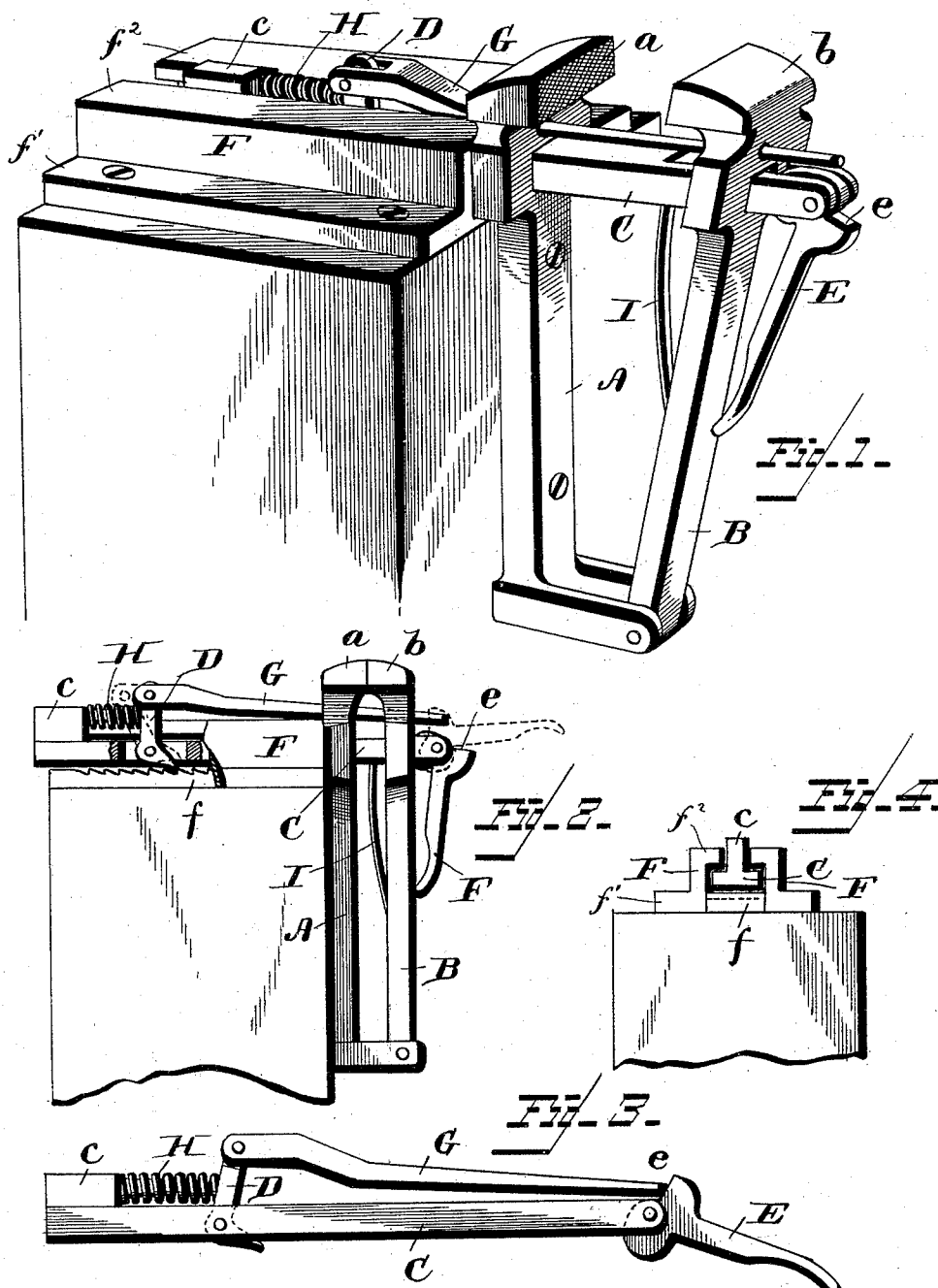


(No Model.)

G. W. DEAFENBAUGH.
SMITH'S VISE.

No. 495,787.

Patented Apr. 18, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. DEAFENBAUGH, OF BELLAIRE, OHIO.

SMITH'S VISE.

SPECIFICATION forming part of Letters Patent No. 495,787, dated April 18, 1893.

Application filed December 31, 1892. Serial No. 456,905. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. DEAFENBAUGH, a citizen of the United States, residing at Bellaire, in the county of Belmont, State of Ohio, have invented certain new and useful Improvements in Smith's Vises; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to vises in which the movable jaw is adapted to be released when it is desired to adjust the same quickly to the size of the work to be clamped.

The object of the invention is to provide a simple, efficient, and compact mechanism for releasing the movable jaw at a moment's notice and fixing the relative position of the said movable jaw in the located position, the releasing and the adjusting of the jaw being effected at one operation and by the same handle or lever by means of which the jaw is clamped on the work.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings in which;

Figure 1 is a perspective view of a vise embodying my invention. Fig. 2 is a side elevation partly in section showing the operation of the invention by dotted lines. Fig. 3 is a detail view of the bar and the mechanism carried thereby. Fig. 4 is an end view of the guide showing the sliding bar in position.

The invention is designed for all forms of vises and is illustrated in connection with the smith's vise in its special application. The vise is of ordinary construction and is composed of the fixed leg A having jaw *a*, pivoted leg B having jaw *b*, and means for clamping the jaw *b* on the work. These means, in the present instance, consists of bar C which is adapted to pass through openings in the legs A and B, and which is provided at its inner end with a locking pawl D and at its outer end with cam lever E which is pivoted to the separated portions formed in the outer end of the said bar C. A guide F is provided for the inner portion of the bar C to work in and is constructed to embrace the said bar and guide it in its movements and hold the

same in relation to the notched bar or plate *f* so that the locking pawl D when in engagement with the said notched bar or plate will be prevented from disengagement until positively released by the operation of the hand lever in the manner hereinafter to be more fully described. This guide may be of any desired form of construction that will effect the desired result, and the notched bar or plate *f* may be an integral part thereof, but it is preferred to have the same formed of steel and constructed separate from and adapted to be applied to the said guide. In the preferable form of construction the guide F is constructed of two similarly formed castings which have a foot *f'* to obtain a broad bearing on the bench or other support and receive the fastening screws or bolts, and an overhanging portion *f*² to extend over the edge of the bar C.

The locking pawl D is bell crank shape and is pivoted at the elbow in an open form in the said bar, the free end of the horizontal portion being constructed to engage with the teeth formed on the bar or plate *f*, and the vertical member having the releasing bar G pivotally connected therewith. The front end of the releasing bar G passes through guide openings in the parts A and B of the vise and has its end projected a short distance beyond the outer face of the leg B to be engaged by the shoulder or projecting portion *e* of the cam lever E. A spring H is suitably located to cause the locking pawl to engage with the notched bar or plate *f* when released from the influence of the cam lever E and when it is desired to fix the position of the jaw *b*. This spring H is located between a vertical projection *c* on the bar C and the vertical member of the locking pawl D. This spring is of coiled shape and has its inner end mounted upon a reduced portion of the projection *c*, substantially as shown. The jaws *a* and *b* are pressed apart sufficiently far to release the work by means of a spring I which has one end secured to one of the legs, and has its other end free and adapted to engage with the bar C. To adjust the jaw *b* cam lever *e* is elevated until the shoulder or projecting portion *c* thereof engages with the outer end of the releasing bar G and presses the same inward sufficiently to disengage the locking

pawl D from the notched bar or plate *f* after which the said bar C can be pushed in or drawn out as may be required to adapt the vise to the size of the work to be clamped.

- 5 After the jaws *a* and *b* have been adjusted to work the cam lever is depressed at its outer end thereby permitting the locking pawl to engage with the notched bar or plate *f* and fixes the position of the said jaw *b*, the con-
10 tinued downward movement on the outer end of the cam lever E clamps the jaw *b* on the work and holds the same firmly in place.

Having thus described my invention, what I claim, and desire to secure by Letters Pat-
15 ent, is—

1. In a vise the combination with the movable jaw and a guide having a notched plate, of a bar adapted to move over the said notched plate, a locking pawl to engage with
20 the said notched plate and lock the said bar thereto in the required position, a releasing bar, and a lever for clamping the movable jaw on the work carried by the bar and adapted to actuate the releasing bar to disen-
25 gage the pawl from the said notched plate, substantially as described for the purpose set forth.

2. In a vise the combination with a guide having a notched plate and a movable jaw, of
30 a bar C adapted to move through the said guide and provided with a locking pawl, a releasing bar, and a cam lever, the latter being constructed to clamp the movable jaw on the

work and engage with the releasing bar to dis-engage the locking pawl from the notched plate, substantially as set forth. 35

3. In a vise the combination with a guide having a notched plate and a movable jaw, of the bar C adapted to move through the said guide, and having the projection *c*, a locking
40 pawl carried by said bar, a spring interposed between the projection *c* and the said locking pawl, a releasing bar, and a cam lever pivotally attached to the said bar C and adapted to engage with the releasing bar, substantially
45 as and for the purpose specified.

4. In a vise the combination of the fixed and movable jaws having transverse openings, a guide having notched plate, a bar C adapted to work through said guide and through open-
50 ings in the said jaws, a locking pawl, a spring for causing the locking pawl to engage with the said notched plate, a releasing bar adapted to pass through guide openings in the said
55 jaws and pivotally connect said inner end with the locking pawl, and a cam lever pivotally attached to the said bar C and constructed to engage with the releasing bar and dis-engage the locking pawl from the said notched
60 plate, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. DEAFENBAUGH.

Witnesses:

J. B. SMITH,

E. B. KENNEDY.